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大豆转化体系的优化和Dof 4基因转入大豆的研究

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摘要： 研究优化了包括种子消毒方法、生长调节剂用量和抗生素种类在内的影响农杆菌介导大豆子叶节遗传转化效率的多个因素，并将Dof 4基因转入绥农14中。结果表明：氯气熏蒸消毒方法对大豆伤害小，子叶节丛生芽分化率高；菌液侵染时间和共培养时间控制直接影响长菌和丛生芽状态。芽诱导培养阶段，当6-BA 浓度为1.6 m·L^{-1}，IBA浓度为0.1m·L^{-1}，分化率较高，畸形率和愈伤状况都较轻。最优的抗生素组合为头孢噻肟钠（Cefotaxime Sodium）200 m·mL^{-1}加羧苄青霉素(Carbenicillin) 250 m·mL^{-1}。

Abstract: In this paper, some major factors, which played important role in improving the transformation efficiency of soybean, such as the method of sterilizing the seeds, plant hormones, and antibiotics, were optimized. The Dof 4 was transferred into the soybean cultivar Suinong 14 by Agrobacterium-mediated cotyledonary node transformation. The result showed that, the chlorine suffocating was chosen to seeds sterilize, which did not harm to the seeds and have a higher differentiation rate for multiple shoot. However, duration of Agrobacterium infection and co-culture influenced the contamination and the state of multiple shoot. As for shoot induction, a higher regenerated rate, better callus induction rate, and lower deformity rate were obtained with 1.6 m·L^{-1}6-BA and 0.1m·mL^{-1}IBA in this experiment. And the optimum combination of antibiotic and concentration in medium was 200 m·mL^{-1}Cefotaxime Sodium and 250 mg·mL^{-1}Carbenicillin.

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